

34039

S/109/62/007/001/018/027
D230/D301

9,4120 (1105)

AUTHOR: Golubev, V.S.

TITLE: Deionization of argon plasma in a magnetic field

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 1, 1962,
153 - 160

TEXT: The relationship is examined between the coefficient of transverse diffusion and magnetic field over a wide range of magnetic fields and concentrations of charged particles; causes of weak dependence of the deionization time on the magnetic field are also discussed. In particular, the initial stages of the deionization of argon plasma in a longitudinal field H , are investigated at pressures $3 \cdot 10^{-2}$ to $3 \cdot 10^{-1}$ mm Hg, ion concentrations $3 \cdot 10^{10}$ to $3 \cdot 10^{13}$ cm^{-3} and $H = 0$ to $3 \cdot 10^3$ oersted. The rapid disintegration of plasma in the magnetic field is associated with volume losses, which exceed the diffusion losses even for fields $H \approx 10^2$ oersted. The diffusion in the magnetic field is explained using the theory of paired collisions: $D_{\perp} \sim (1 + H^2)^{-1}$, at least up to field values of

Card 1/3

Deionization of argon plasma in a ...

34039
S/109/62/007/001/018/027
D230/D301

2000 oersted and concentrations of charged particles 10^{13} cm^{-3} $\bar{p} \approx \approx 10^{13} \text{ cm}^{-3}$, where D_{\perp} is the coefficient of transverse diffusion, α is a constant dependent on gas pressure and concentration of charged particles \bar{p} . The relation between the diffusion coefficient and discharge current in the absence of the magnetic field corresponds qualitatively to the theory of ambipolar diffusion in paired collisions of charged particles with neutral atoms. The relation between the deionization time and the magnetic field is explained assuming that deionization undergoes two processes: The process of ambipolar diffusion of charged particles in paired collisions with neutral molecules and ions and the process of the disappearance of the particles in the volume which result in a weaker influence of the magnetic field on the coefficient of diffusion. There are 10 figures, 2 tables and 14 references: 12 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: A.V. Hershey, Phys. Rev., 1939, 56, 916; T.K. Allen, G.A. Paulikas and R.V. Pyle, Phys. Rev. Letters, 1960, 5, 1508.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova, kafedra elektroniki

Card 2/3

Deionization of argon plasma in a ...

34039

S/109/62/007/001/018/027
D230/D301

(Faculty of Physics, Moscow State University im. M.V.
Lomonosov, Department of Electronics)

SUBMITTED: April 13, 1961

Card 3/3

24.6714
9.4230

35985
S/109/62/007/004, 009/018
D230/D302

AUTHORS: Golubev, V.S., and Granovskiy, V.I.

TITLE: On the theory of diffusion waves in plasma placed in a longitudinal magnetic field

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 4, 1962, 663 - 669

TEXT: The diffusion of charge carriers in a quiescent gas is discussed in terms of the diffused waves in the two cases, with and without the magnetic field. Wave diffusion takes place in a long gas-filled cylindrical tube having at its input a plasma source the concentration of which varies periodically. The diffusion velocity of the charged particles and its coefficient can be calculated by measuring the amplitude and phase of the variable concentration component at various points of the tube axis. The waves described here differ from other wave modes of plasma concentration by the mechanism of its origin and propagation. These waves originate by the periodically-varying entry of charge carriers into the gas, they cannot originate in the plasma spontaneously; the wave distribution is uniform along the tube axis. 4

Card 1/2

On the theory of diffusion waves ...

S/109/62/007/004/009/018
D230/D302

bution is determined entirely by the ambipolar diffusion of charge carriers and it is not related to electron temperature variations and the appearance of new regions of collision ionization. In the case of very small gas pressures when an ion, moving in an ambipolar electric field along the length of a free path, gains energy compared with its temperature energy the carrier equilibrium comparison cannot be written down in the form of the diffusion differential equation. Further discussion about the limiting conditions in application of the theory gives conclusions about the operating parameters for low gas pressures, for large pressures and for considerable concentrations of charged particles. There are 5 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publication reads as follows: L. Tonks, Phys. Rev., 1941, 59, 522.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova, kafedra elektroniki
(Faculty of Physics, Moscow State University im. M.V. Lomonosov, Department of Electronics)

SUBMITTED: October 25, 1961
Card 2/2

S/109/62/007/005/015/021
D201/D308

74.5/10

AUTHORS: Golubev, V.S., and Granovskiy, V.L.

TITLE: An experimental study of diffusion waves of charged particles in a quiescent gas inside a magnetic field

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 5, 1962, 880 - 889

TEXT: The authors describe an experimental verification of the theory of diffusion waves in a magnetic field, as given by them earlier (Radiotekhnika i elektronika, 1962, 7, 4, 663) and attempt to confirm in this way the dependence of the coefficient of ambipolar diffusion on the magnetic field, which dependence results from the theory of binary collisions. The ambipolar diffusion of electrons and ions in rarified He and A, occurring along a cylindrical tube was investigated in various conditions: at a constant concentration at the beginning of the tube (a stationary diffusion stream) at a periodically changing concentration (concentration waves), in the absence and in the presence of an axial magnetic field. In the absence of magnetic field the plasma parameters were measured both

Card 1/3

An experimental study of diffusion ...

S/109/62/007/005/015/021
D201/D308

by the twin- and the Langmuir-probe methods. In the presence of magnetic field the current of a twin-probe only was measured. The measurements were carried out in He and A, at pressures 0.03 - 1 mm Hg, discharge currents 0.3 - 1 A, plasma concentrations $n \approx 10^7 - 10^{10}$ cm⁻³, magnetic fields up to 1400 oersted and modulating frequencies 40 - 10.000 c/s. The decrease in the concentration and temperature of electrons in a stationary diffusion stream and the attenuation of concentration waves were measured as functions of the magnitude of the magnetic field, frequency of the wave and of other experimental conditions. The results prove the validity of the theory of diffusion waves in plasma as given by the authors and by O.R. Konenko in 1960. The method of diffusion waves makes it also possible to determine by a novel method the dependence of the coefficient of transverse diffusion on the magnetic field, which dependence, for fields up to 1500 oersteds, remains in good agreement with the theory of binary collisions. A detailed description of the experimental T-shaped tube, the experiment procedure and comparison of results obtained with those cited in both Soviet-bloc and non-Soviet-bloc literature are given. There are 9 figures and 2 tables. ✓
B

Card 2/3

An experimental study of diffusion ...

S/109/62/007/005/015/021
D201/D308

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo uni-
versiteta im. M.V. Lomonosva. Kafedra elektroniki
(Moscow State University im. M.V. Lomonosov, Faculty
of Physics, Department of Electronics)

SUBMITTED: November 13, 1961

12

Card 3/3

GOLUBEV, V.S.; GRANOVSKIY, V.L.

Concerning the theory of diffusion waves in plasma resting in
a longitudinal magnetic field. Radiotekh. i elektron. 7 no.4:
663-669 Ap '62. (MIRA 15:3)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta
im. M.V.Lomonosova, kafedra elektroniki.
(Plasma (Ionized gases)) (Magnetic fields)

GOLUBEV, V.S.; PANCHENKOV, G.M.

Sorption kinetics and ion exchange in the outer diffusion region in the presence of liquid phase flow. Zhur.fiz.khim. 36 no.10: 2271-2274 0 '62. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

14219

S/056/62/043/006/001/067
B163/B186

24.2120

AUTHOR: Colubev, V. S.

TITLE: Investigation of charge carrier diffusion in ionized gases by the diffusion wave method

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 6(12), 1962, 1985 - 1990

TEXT: The diffusion wave method described earlier (V. S. Colubev, V. A. Granovskiy, Radiotekhn. i elektron., 4, 663, 1962 and 5, 880, 1962) is applied to measure the coefficients of longitudinal ($D_{||}$) and transverse (D_{\perp}) ambipolar diffusion of the carriers in ionized gases (H_2 , He, Ne, Ar, Kr, Xe) at pressures from 0.03 to 1 mm Hg in magnetic fields up to 1.5 koe, at ion concentrations from 10^8 to 10^{10} cm⁻³ and electron temperatures of the order of 1 ev. The plasma from an arc discharge diffuses into a glass tube placed inside a solenoid coil. The discharge voltage is modulated with frequencies from 40 to 10^4 cps and the attenuation δ of the resulting charge density waves, measured in the tube with a movable double probe, is

Card 1/4

Investigation of charge ...

S/056/62/043/006/001/067
B163/B186

displayed on a cathode ray tube. $D_{||}$ was determined from $\delta = \sqrt{\omega/2} D_{||}$ in strong magnetic fields H and at high modulation frequencies ω , and the ratio $D_{||}/D_{\perp}$ was determined from $\sqrt{D_{||}/D_{\perp}} = \delta(0)\delta(H)$ at low modulation frequencies. It was found that the dependence of $D_{||}/D_{\perp}$ on magnetic field strength H could be described by an expression of the type that follows from the classical theory of two-particle collisions, i. e. $D_{||}/D_{\perp} = 1 + \alpha H^2 = 1 + \alpha (H/p)^2$ except for Kr at the lowest pressure of 0.03 mm Hg. The dependence of the ion current I_p on the ion concentration n when hitting the double probe is $I_p \propto n^{\beta}$, where $\beta \approx 0.6 - 0.7$. It was found that the electron temperature T_e varied only slowly along the tube's axis. This dependence $T_e(z)$ can be explained qualitatively by assuming that the electron gas is heated by electric field fluctuations originating from non-thermal noise in the gas discharge plasma. The results are given in Table 2, together with values of the collision probability Q_{e1} (in $\text{cm}^{-1} \text{ mm Hg}$) and the ion mobility b_{p1} (in $\text{cm}^2 \text{ v}^{-1} \text{ sec}^{-1} \text{ mm Hg}$) as calculated from the experimental data. Q_{e1} and b_{p1} are compared with values given by G. Schulz

Card 2/4

Investigation of charge ...

S/056/62/043/006/001/067
B163/B186

and S. Brown (Phys. Rev., 98, 1642, 1955). There are 5 figures and 2 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: March 31, 1962

Card 3/4

Investigation of charge...

S/056/62/043/006/001/067
B163/B186

Table 2.

Газ	$p, \mu\text{m}$ рт. ст.	T_e, eV ($H \sim 10^4$)	$10^{-10} D_{\parallel p}$	$10^{12} \alpha_1$	Q_{el}	$Q_{el} \text{ нз [}^\circ\text{]}$	$10^{-10} b_{pl}$	$10^{-10} b_{pl}$ нз [}^\circ\text{]}
H_2	0,03	1,1	—	2,1	22	48	17	11,2 (10)
	0,1	1,5	—	1,1	33	48		
	1,0	0,7	12	—	—	—		
He	0,1	2,8	—	1,4	25	18	23	10 (20)
	0,3	2,5	—	1,5	25	20		
	1,0	2,8	03	1,9	18	18		
Ne	0,1	3,2	15	2,2	6	7,5	9	4 (6,6)
	0,3	2,3	23	2,0	5	6,5		
	1,0	1,2	10	8	3	—		
Ar	0,03	2,2	4,5	0,36	11	5	2,3	1,6 (2,6)
	0,1	1,5	3,5	0,3	16	12		
	0,3	1,1	2,8	1,0	6	9		
Kr	0,03	2,0	4,2	—	—	5	1,9	0,9 (1,2)
	0,1	1,8	3,9	0,4	0	15		
	0,3	1,0	—	1,1	5	4		
Xe	1,0	0,6	—	1,4	4,5	4	(3,2)	0,6 (0,8)
	0,03	1,6	4,2	0,15	(43)	25		
	0,1	1,0	3,5	0,22	(39)	8		
	0,3	0,7	2,5	0,16	(63)	5		

Card 4/4

1121243 EWG(E)/EWT(1)/BDS/ES(W)-2--AFFTC/AFWL/ASD/ESD-3/SSD--
 IN NR: APX003726

AUTHOR: Golubev, V. S.

TITLE: Investigation of plasma decay in a strong magnetic field

SOURCE: Radiotekhnika i elektronika, v. 8, no. 7, 1963, 1253-1263

TOPIC TAGS: hydrogen plasma, argon plasma, plasma decay, magnetic field

ABSTRACT: The deionization of hydrogen and argon plasma in magnetic fields of 0-10 and 15 koe has been investigated at pressures of 0.01-1 mm Hg and an initial ionization of 10^{-6} - 10^{-7} . The plasma was produced in a glass tube by pulses of 3-10 kv with durations of 1-10 μ sec. A solenoid placed on the tube produced a uniform magnetic field of 2-8 μ sec in duration and 15 koe in amplitude. The pulse of the tube current was synchronized with that of the solenoid current in such a manner as to insure a constant magnetic field with an accuracy of up to 1% during the first 100 μ sec of plasma decay. Ion lifetime in the initial stage of the decay was determined from the ion current flowing in a cylindrical probe which had a resistance of 10-2000 ohm. The results of the measurements show the following: 1) In a magnetic field of 0-15 koe, ion lifetime increases as the magnetic field increases to a certain limit

Card 1/3

12-63
ACCESSION NR: AP3003726

2
which depends only slightly on gas pressure and ion concentration. Ion lifetime increases 5-40 times with an increase in the magnetic field of 1-4 koe, reaching 30-100 μ sec, and then remains unchanged up to fields of 10^4 oe.

2) Radial ion distribution in strong magnetic fields and low pressures changes from a contracted to a diffused state and for some time differs but slightly from the normal diffusion distribution. 3) It may be assumed that ion lifetime during plasma decay in a magnetic field depends on ambipolar plasma diffusion across the field toward the walls of the tube and on volume recombination, the rate of which does not depend on magnetic field intensity. 4) Diffusion lifetime is a function of the square of the magnetic field. This dependence has been checked in magnetic fields of 2-4 koe for argon and fields of up to 0.5 koe for hydrogen. Coulomb collisions play an essential role in diffusion at ion concentrations of 10^{12} - 10^{13} /cm³. "The author thanks Ye. L. Granovskiy, who directed the project." Orig. art. has: 15 figures, 8 formulas, and 2 tables.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova. Kafedra elektroniki (Physics Faculty, Moscow State University. Department of Electronics)

Card 2/3

- 12 (2/56) -

GOLUBEV, V.S.; PANCHENKOV, G.M.

Layer by layer method of computation of the dynamics of non-equilibrium sorption and chromatography. Zhur.fiz.khim. 37 no.2: 310-317 F '63. (MIRA 16'5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Sorpton) (Chromatography)

GOLUBEV, V. S.; PANCHENKOV, G.M.;

"Eine Methode zur Berechnung der Dynamik der Sorption und Chromatographie"

Third Working Conference on Stable Isotopes 28 Oct to 2 Nov 1963, Leipzig.

GOLUBEV, V.S.; PANCHENKOV, G.M.

Equation for the diffusion kinetics of sorption (ion exchange)
when external and internal diffusion is taken into account.
Zhur. fiz. khim. 38 no.1:228-230 Ja'64. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

GOLUBEV, V.S. (Moskva); KASABOV, G.A. (Moskva); KONAKH, V.F. (Moskva)

Study of a stationary argon - cesium plasma of nonequilibrium
conductivity. Teplofiz. vys. temp. 2 no.4:493-509 J1-Ag '64.
(MIRA 17:9)

"APPROVED FOR RELEASE: 06/13/2000

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no. 6, 1961), a series of experiments was carried out to extend the

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was found to have a value approximately between 1 and 4. 4) The

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CIA-RDP86-00513R000515910015-4"

GOLUBEV, V.S.; PANCHENKOV, G.M.

Determination of the diffusion mechanism controlling the
rate of sorption (ion exchange). Zhur. fiz. khim. 38
no.4:1010-1013 Ap '64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

GOLUBEV, V.S.; KUZ'MIN, Ye.N.; PANCHENKOV, G.M.

Sorption dynamics in the presence of interaction of adsorbed molecules. Zhur. fiz. khim. 39 no.4:1018-1021 Ap '65.

(MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
Submitted July 29, 1964.

ACC NR: AP7000284 (N) SOURCE CODE: UR/0050/66/000/011/0053/0057

AUTHOR: Struzer, L. R. (Candidate of physico-mathematical sciences); Golubev, V. S.; Gorbunova, I. G.

ORG: Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya); State Hydrological Institute (Gosudarstvennyy gidrologicheskiy institut)

TITLE: Preliminary results of precipitation-gage comparisons

SOURCE: Meteorologiya i gidrologiya, no. 11, 1966, 53-57

TOPIC TAGS: rain, atmospheric precipitation, rain gage, precipitation gage, pluviograph, snow, *METEOROLOGIC INSTRUMENT*

ABSTRACT: The preliminary results of rain-gage comparison tests run during 1963—1965 using the international reference precipitation gage (IRPG), Tret'yakov precipitation gages, rain gages with Nipher shields, and pluviographs are presented. The tests began on 1 July 1963 in Omsk and on 1 September 1963 at the rain-gage test range in Valday. Tabular data given in the article show that the relationship between the readings of the standard Soviet gages and of the IRPG is different for liquid and solid precipitation. The Tret'yakov gage registers 3% less than the IRPG for liquid precipitation and 3% more

Card 1/2

UDC: 551.508.77

ACC NR: AP7000284

for solid. The rain gage with a Nipher shield registers the same or 1% more than the IRPG for liquid precipitation, and about 12% less for solid. Corrections for gage wetting and wind are also examined, and methods for converting the values obtained using Soviet rain gages to values obtained using a standard reference instrument are given. Orig. art. has: 4 figures, 2 tables, and 5 formulas. [LB]

SUB CODE: 04/ SUBM DATE: 29Dec65/ ORIG REF: 005/ OTH REF: 004 [WA N-67-4]

Card 2/2

S. GOLUBEV, V.S.

Evaluation of the effect of surface-active agents on the evaporation
of water. Trudy GGI no.92:175-185 '64.

(MIRA 17:11)

GOLUBEV, V.S.; ZOTIMOV, H.V.; ZHIGOV, N.A.

Some results of studies of liquid precipitation in the region
of the Valday Hills. Trudy GGI no.123:5-14 '65.

(MIRA 18:10)

GOLUBEV, V.S.

Some results of research on the precipitation proving ground of
the Valday Scientific Research Hydrologic Laboratory. Trudy GGI
no.123:81-95 '65. (MIRA 18:10)

U.S.S.R. ... POPOV, A.B.; GRUBIN, I.S.; NYK, N.A.; PERLOVSKII, O.I.

1. A. A. Kozlovskiy, "Improvements of methods of observations on snow cover and precipitation and suggestions of the State Hydrologic Institute for their improvement. Trudy GGO no. 175:31 58 '65.

(MIRA 18:8)

1. Goskrotovskiy sibirskiy institut.

KONSTANTINOV, A.R.; ~~GOLUBEV, V.S.~~

Possibility of measuring gradients of atmospheric temperature
and humidity by the use of station psychrometers installed in
instrument shelters. Trudy GGI no.76:152-167 '60.
(MIRA 13:6)

(Hygrometry)

KONSTANTINOV, A.R.; GOLUBEV, V.S.; POKUDOV, V.V.

Studying the characteristics of air currents determining changes
in the evaporation from the surface of a body of water. Trudy GGI
no.81:65-90 '60. (MIRA 14:1)

(Valdai, Lake--Evaporation)

KONSTANTINOV, A.R.; FEDOROVA, T.G.; GOLUBEV, V.S.

Effect of different factors on the readings of water evapori-
meters placed in the ground. Trudy GGI no.76:67-111 '60.
(MIRA 13:6)

(Evaporation)

GOLUBEV, V.S.

Measurement of rainfall by different instruments. Trudy GGI no.81:
5-18 '60. (MIRA 14:1)
(Precipitation (Meteorology)—Measurement)

GOLUBEV, V.S.; GRIGOR'YEVA, V.P.

Efficiency of prospecting operations in Bashkiria. Trudy VNI
no.33:248-256 '61. (MIRA 16:7)

1. Ufimskiy naftyanoy nauchno-issledovatel'skiy institut.
(Bashkiria—Petroleum geology)

GOLUBEV, V.S.; KIRIGINTSEV, A.N.; PANCHENKOV, G.M.

Equation for the output curve of equilibrium sorption in a continuous flow of the substance adsorbed by an adsorbent. Kin. i kat. 4 no.4:635-643 JI-Ag '63. (MIRA 16:11)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR i Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet.

GOLUBEV, V.S.

Accuracy of measuring liquid precipitation with Tret'iakov's
precipitation meters. Trudy GGI no.95:3-13 '62. (MIRA 15:6)
(Precipitation (Meteorology)--Measurement)

BURTSEV, P.N.; GOLUBEV, V.S.

Effect of the moment of inertia on the readings of a current
meter and an anemometer. Trudy GGI no.96:113-122 '62.

(MIRA 15:6)

(Flow meters) (Anemometer)

GOLUBEV, V. V.

DECEASED

Mathematics

See ILC

Aerodynamics

GOLUBEV, V.V.; KRASNOSHCHEKOVA, Ye.Ye; ZUYKOVA, V.P.

Our practice in improving asepsis in rural medical centers.
Fel'd. i akush. 28 no.3:44-45 Mr'63. (MIRA 16:7)

1. Iz bakteriologicheskoy laboratorii Kazanskogo nauchno-issle-
dovatel'skogo instituta travmatologii i ortopedii i Arskoy
rayonnoy bol'nitsy Tatarskoy ASSR.
(ASEPSIS AND ANTISEPSIS)

SOV/118-59-3-11/22

28(1)

AUTHOR: Golubev, V.V., and Tepankov, U.M., Engineers

TITLE: A Mechanical Tunneler of "Lenmetrostroy" (Mekhanizirov-
annyy tshchit Lenmetrostroya)

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959,
Nr 3, pp 31-35 (USSR)

ABSTRACT: A mechanical tunneler of "Lenmetrostroy" is intended
to cut subway tunnels through compact Cambrian clay.
It is an ordinary tunneler, equipped with a cutting
mechanism, and consists of a knife-supporting ring,
casing and dividing walls. The knife-supporting ring
and the casing form a cylinder, in the middle of which
the cutting mechanism, the tunneling mechanism, the
conveyer, the electric and the hydraulic equipment are
mounted. Lengthwise the cylinder is divided into the
knife-supporting ring and the tail unit. The tail unit
represents the continuation of the casing. Vertically,
the casing is divided by two horizontal dividing walls
into three compartments. The lower and upper compart-

Card 1/2

SOV/118-59-3-11/22

· A Mechanical Tunneler of "Lenmetrostry"

ments are divided by two vertical walls into three cells. Thereby the inner space of the shield is divided into 7 cells: a large one in the middle section, and six small ones, three in the upper and three in the lower section. The mechanical tunneler of "Lenmetrostroy" has proved to have great technical and economical advantages. There are 6 graphs.

Card 2/2

GOLUBEV, V.V.

Effect of viscosity on the flow about an airfoil. Izv. AN SSSR. Otd.
tekh.nauk. Mekh. i mashinostr. no. 6: 3-14 M-D '60. (MIRA 13:12)
(Airfoils)

GOLUBEV, V.V.

Prevention of agricultural accidents in the Arsk District
of the Tatar A.S.S.R. Kaz. med. zhur. no.1:87-89 Ja-F '62.

(MIRA 15:3)

1. Organizatsionno-metodicheskiy otdel (rukovoditel' - kand.
med.nauk Ya.I. Tarnopol'skiy) Kazanskogo nauchno-issledovatel's-
skogo instituta travmatologii i ortopedii (direktor - kand.med.
nauk U.Ya. Bogdanovich) i Arskaya rayonnaya bol'nitsa Tatarskoy
ASSR (glavnyy vrach - A.K. Kudyakova).

(ARSK DISTRICT AGRICULTURE SAFETY MEASURES)

GOLUBEV, V.V.

Natural combustible gases in Turkistan. A. S. Karlonas and V. V. Golubev.
Repts. Geol. Petroleum Research Inst. (Moscow) 1932, 137 8.--Analyses are given.
A. A. Buchting

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 AND 102 ENDERS

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105 AND 106 ENDERS

107 AND 108 ENDERS

109 AND 110 ENDERS

111 AND 112 ENDERS

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115 AND 116 ENDERS

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163 AND 164 ENDERS

165 AND 166 ENDERS

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GOLUBEV, V. V.

UNCLASSIFIED AND PROPRIETARY INFO

10

Polycondensation reactions. VII. Influence of excess of adipic acid on polycondensation with hexamethylenediamine. V. V. Korshak and V. V. Golubev. *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1946, 185-90 (in Russian); cf. *C.A.* 40, 4065; 41, 1617; 42, 6150e. — Excess of adipic acid (I) in the condensation with hexamethylenediamine (II) leads to polyamides of lowered mol. wt. An empirical formula $M = (1268/\delta) + 140$, where M is the av. mol. wt. of the products and δ is the wt. % of excess I, was derived from considerations in the previous paper. The technique used was that of Raikov and K. (*C.A.* 39, 4593). The products were examd. for mol. wt. (by viscosity in cresol) and no. of end groups according to a previous paper (*ibid.* 1945, 481). The following results (given in the order mol. % excess I and mol. wt. by end groups, by viscosity, and by the above formula) were obtained: 0.5, 35,187, 23,023, above formula 45,340; 1, 23,800, 19,629, 22,746; 2, 18,181, 14,870, 11,446; 6, 6341, 6039, 3912; 16, 4209, 4138, 1652; 30, 3169, 2833, 899; 60, 2604, 2892, 621; 100, 2176, 3029, 373. The results are also given graphically. The divergence between calcd. and observed mol. wts. is not caused by incomplete reaction and may be explained by the unreacted portion of I, which upsets the equil. $I + II \rightarrow$ polyamide; by application of a cor. formula, using α as a part of I which enters the reaction: $\alpha = 22,600/(M - 140)n$, where α is the total amt. of I used, the values of α were found to be: 0.77 at

9 mol. % excess I, 0.77 at 6%, 0.38 at 15%, 0.28 at 30%, 0.15 at 60%, and 0.12 at 100% excess I. Two explanations of the action of excess I may be given: (1) the reaction proceeds through alternate coupling of I and II until the terminal groups are both of type I and reaction ends (this, however, does not account for interaction of the polyamide with I), and (2) such interaction occurs by means of hydrolysis, which leads to chain scission and decrease of av. mol. wt. G. M. Kosolapoff

A 38-514 METALLURGICAL LITERATURE CLASSIFICATION

1946-1947

1946-1947

1946-1947

GOLUBEV, V. V. Cand. Chem. Sci.

Dissertation: "On Certain Laws Governing the Reaction of Polycondensation."
Inst of Organic Chemistry, Acad Sci USSR, 12 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

"APPROVED FOR RELEASE: 06/13/2000

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100 : 0.01 part ZUC is (preliminary warning to NCI-IR)

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PA 63/49T8

USSR/Chemistry - High Molecular
Compounds

Jul/Aug 49

"Research in the field of High Molecular Compounds":
No XXI (1), Polycondensation of Glycol With Adipic
Acid," V. V. Korshak, V. V. Iolubev, Inst of Org
Chem, Acad Sci USSR, 64 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 4

Study of polycondensation of ethyleneglycol, with
an excess of adipic acid showed that molecular
weight of the derived polyesters was decreased as
excess of adipic acid was increased. Derived for-
mula for this relation. Considered acidification by

63/49T8

USSR/Chemistry - High Molecular Jul/Aug 49
Compounds (Contd)

heating with adipic acid and glycolization of
the polyester in turn. Gives a formula to
express the relation between molecular weight
of the polyester and quantity of acid required
to acidify it. Submitted 20 Nov 48.

63/49T8

GOLUBEV, V. V., KARPOVA, G. V., and KORSILAK, V. V.

"Investigation of rubbery mixed polyesters," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 20 Jan-2 Feb 57, Moscow, Research Inst. Organic Chem., Acad. Sci.

B-3,004,395

GOLUBEV V. V.

AUTHORS:

Korshak, V. V., Golubev, V. V., Karnova, G. V. 62-1-15/29

TITLE:

Heterochain Polyesters (O geterotsepnnykh poli-
efirakh)

Report 6: The Mixed Polyesters of the Ethylene Glycol and Two
Dicarboxylic Acids (Soobshcheniye o. Smeshannyye poliefiry etilengli-
kolya i dvukh dikarbonovykh kislot)

PERIODICAL:

Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1950, nr 1,
pp. 88-95 (USSR)

ABSTRACT:

Karozen and Dorai (reference 1) were the first to obtain a mixed polyester. This mixed polyester differed in its properties from the obtained alloy of the polyethylene succinate and polyethylene sebacynate. Greater attention was paid to the research of mixed aromatic-aliphatic poly-esters. A short description of the investigation results in the above mentioned field of Edgar, Izard and Griehl (references 3,4,5,6) follows. In the experiment carried out by the authors of this paper the polycondensation of bifunctional compounds was used in order to obtain mixed poly-esters. Di- β -hydroxyethylene esters of the dicarboxylic acids were used as initial products. The following was reported by the authors on the obtained results: The properties of the mixed poly-esters with which the authors

Card 1/3

Heterochain Polyesters

Report 6: The Mixed Polyesters of the Ethylene Glycol and Two Dicarboxylic Acids

62-1-1; '29

deal in the present paper vary to a great extent according to the composition of the initial component. Some poly-esters are solid elastic products, some are brittle. Others are soft or viscous glutinous liquids. In all systems poly esters can be found with a minimum melting temperature which is obtained by the interaction of the terephthalic and aliphatic acid (10:90, 20:80, or 30:70 mol.%). (Figure 1-6). The same rules, as within every system, can be observed with respect to the minimum temperatures (see table 7). The minimum temperatures drop from 37 to -18°, and then rise again up to 41°. The solubility of the mixed polyesters in solvents (link benzene and cyclohexanone) is determined by the content of terephthalic acid (see table 8a). Dicomponent poly esters with a content of terephthalic acid of more than 50, 60% resp. are not soluble, under 50% they are soluble in certain solvent (tables 1-8). The properties of the mixed poly-esters depend on the correlation of the initial components. Therefore it was interesting to observe how these correlations in the reaction process are conserved. For this purpose an elementary analysis of the poly esters for various interactions was carried out. The results of this analysis are to be seen in table 9. As

Card 2/3

Heterochain Polyesters
Report 6: The mixed Polyesters of the Ethylene Glycol and Two Dicarboxylic Acids, 62-1-15/29

we see, the computed composition corresponds to a great extent to that obtained on the strength of the experiment. There are 6 figures, 9 tables, and 7 references, 1 of which is Slavic.

ASSOCIATION: Institute of Elemental-Organic Compounds, AS USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

SUBMITTED: August 4, 1956

AVAILABLE: Library of Congress

1. Mixed polyesters-Chemical analysis
2. Ethylene glycol-Chemical reactions
3. Dicarboxylic acids-Chemical reactions

Card 3/3

SLONIMSKIY, G.L.; KORSHAK, V.V.; GOLUBEV, V.V.; VELIKOVSKAYA, N.A.

Properties of mixed glycol polyesters of terephthalic and sebacic acids as a function of the acid ratio. Vysokom. soed. 1 no.6:925-929
Je '59. (MIRA 12:10)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Terephthalic acid) (Sebacic acid)

5(3)

AUTHORS:

Korshak, V. V., Golubev, V. V.,
Karpova, G. V., Dubova, T. A.

SOV/62-59-3-24/37

TITLE:

On Polyesters With Heterogeneous Chains (O geterotsepnnykh poliefirakh). Communication 15. Mixed Polyesters of Tetramethylene Glycol and Two Dicarboxylic Acids (Soobshcheniye 15. Smeshannyye poliefiry tetrametilenglikolya i dvukh dikarbonovykh kislot)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 3, pp 540-545 (USSR)

ABSTRACT:

In the present paper systems of mixed polyesters of tetramethylene glycol which contain the following dicarboxylic acids were investigated: terephthalic acid - succinic acid, terephthalic acid - glutaric acid, terephthalic acid - adipic acid, terephthalic acid - pimelic acid, terephthalic acid - suberic acid, terephthalic acid - azelaic acid, terephthalic acid - sebacic acid, sebacic acid - azelaic acid, sebacic acid - adipic acid, and azelaic acid - adipic acid. The ratio between the components was widely changed. The properties of the double, mixed polyesters investigated are given in tables 1-10. In the comparative tables the melting temperatures (filament formation) (Table 11) as well as the solubility (Table 12) of the mixed

Card 1/3

On Polyesters With Heterogeneous Chains.

Communication 15. Mixed Polyesters of Tetramethylene Glycol and Two Dicarboxylic Acids

SOV/62-59-3-24/37

polyesters in benzene with heating, according to the composition and the ratio of the initial acids, are given. As may be seen from tables 1-10, the temperatures of filament formation as well as the solubilities of mixed polyesters of tetramethylene glycol change in a similar way as the polyesters of ethylene glycol (Ref 1). In this case there are also minima of the melting temperatures which coincide with the ratios 10/90, 20/80, or 30/70 mol% of terephthalic and aliphatic acid. The solubility of the polyesters of tetramethylene glycol is somewhat higher than that of the polyesters of ethylene glycol. Many of them are soluble in benzene. All corresponding polyesters of ethylene glycol are, however, insoluble. The melting temperatures of aromatic-aliphatic polyesters with 100 to 70 mol% of the terephthalic-acid content are higher than those of the corresponding polyesters of ethylene glycol. Polyesters of tetramethylene glycol containing 50 mol% and less of terephthalic acid melt at lower temperatures than corresponding polyesters of ethylene glycol. Polyesters of two aliphatic acids occupy a special place. In every ratio they form

Card 2/3

On Polyesters With Heterogeneous Chains.
Communication 15. Mixed Polyesters of Tetramethylene Glycol and Two Dicarboxylic Acids

SOV/62-59-3-24/37

filaments at lower temperatures than aromatic-aliphatic polyesters and all of them are soluble in benzene. Numerous mixed polyesters of tetramethylene glycol form sufficiently solid foils and films which are capable of being stretched at low temperatures. There are 12 tables and 1 Soviet reference.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: June 27, 1957

Card 3/3

LEITEN, Vladimir Vasil'yevich

Lectures on integration of the equations of motion of a rigid body about a fixed point. Jerusalem, published for the National Science Foundation by the Israel Program for Scientific Translations, 1960.
329 p. illus., diagrs.

Translated from the original Russian: Lektsii po Integratsii Dvuzhdeniya Dvisheniya Tyazhelogo Tverdogo Tela Okolo Nopovishennogo Tockhi, Moscow, 1955.
Bibliograph.: p. 225-229

GOLUBEV, Vladimir Vasil'yavich; MARKUSHEVICH, A.I., red.; ARAMANOVICH, I.G., red.; SOLOMENTSEV, Ye.D., red.; ARANOVICH, I.G., red.; MURASHOVA, N.Ya., tekhn. red.

[Single-valued analytic functions; automorphic functions] Odnosnachnye analiticheskie funktsii, avtomorfnye funktsii. Vstup. stat'ia A.I.Markushevicha. Moskva, Gos. izd-vo fiziko-matem.lit-ry, 1961. 455 p.
(Functions, Analytic) (Functions, Automorphic) (MIRA 15:1)

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of terephthalic and terephthalic acids, containing 10, 20, 40, 60, 80, and 100% terephthalic acid.

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viscosity of the solutions was also determined on the

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GCHQ, Ya.V. (Grc1)

Visual aids and initial thinking in a foreign language. Top.
psikhol. no.4:115-125 J1-Ag '64.

(SER: 17:11)

AUTHORS: Sterman, L.S., Candidate of Technical Sciences and SOV/96-59-5-11/19
Golubev, Ye.K., Engineer

TITLE: The Use of Two-Stage Steam-Washing in Evaporators
(Primeneniye dvukhstupenchatoy promyvki para na
isparitelyakh)

PERIODICAL: Teploenergetika, 1959, Nr 5, pp 59-65 (USSR)

ABSTRACT: Until recently, it has been thought that feed water of sufficient purity for once-through boilers could only be produced by deep desalting, which is expensive. In recent years a new steam-washing circuit, originally described by Sterman in Energomashinostroyeniye, 1955, Nr 1, has been widely used in Soviet power stations. When this circuit is used the salt content of the distillate is greatly reduced and is usually some tenths of a milligram per kilogram of distillate, whilst blow-down does not exceed 2 to 3% as against 8 to 12% with other constructions of evaporators. At normal load, the salt content of distillate from evaporators with steam-washing devices to the designs of the Moscow Division of the Central Boiler Turbine Institute is about 1/2000 of the salt content of the feed water delivered to the

Card 1/5

The Use of Two-Stage Steam-Washing in Evaporators

SOV/96-59-5-11/19

evaporators. Thus, with these evaporators, distillate with a salt content of 50 micrograms/kg can be obtained only if the salt content of the feed water does not exceed 100 mg/kg. As softened water usually has a higher salt-content than this, the methods of purifying steam in evaporators need still further improvement. In the evaporators described, the steam is washed with feed water and then separated in screen separators. The purity of the distillate obviously depends on the purity of the feed water used to wash it and can be increased if the steam is further washed with condensate. The amount of condensate required for this purpose is small, being only 5% of the evaporator output, and there are no additional energy losses. The new steam-purifying circuit was applied to an evaporator type ISV-300 used to make up condensate loss in the once-through boilers of a high-pressure heat and electric power station. For purposes of comparison, this installation included a second evaporator for ordinary steam-washing and purification

Card 2/5

The Use of Two-Stage Steam-Washing in Evaporators

SOV/96-59-5-11/19

by the method of the Moscow Division of the Central Boiler Turbine Institute, in which the steam is washed only with feed water. Drawings of the original form of the evaporator type ISV-300 and the more recent version with single-stage steam-washing appear in Fig 1 and 2 respectively; the differences are described. Latest version, type ISV-300M, with two-stage steam washing, is shown in Fig 3 and discussed. An electro-mechanical automatic feed-regulator, diagrammatically illustrated in Fig 4, was used and is described. Sectioned drawings of the float chamber and valve box of the regulator are shown in Fig 5. A schematic circuit of the evaporator installation after modernisation of the evaporators is given in Fig 6, two stage steam washing being used in one evaporator and ordinary single-stage washing in the other. The quality of the distillate was determined from the sulphate residue and, in some cases, determinations were also made of the silicic acid content. Test results for the evaporator with single-stage steam-washing, given in Table 1, show that the sulphate content of the

Card 3/5

The Use of Two-Stage Steam-Washing in Evaporators

SOV/96-59-5-11/19

distillate is 0.13 mg/kg even under the best conditions; this is too high for once-through boilers. Tests results on the two-stage evaporator are recorded in Table 2; they indicate that the quality of the distillate is much improved and also that it is more effective to wash the steam with cold water than with water at saturation temperature. When washing the steam with condensate at a temperature of 25 to 30°C delivered to the evaporator at the rate of about 5% of the evaporator output, the salt content of the distillate does not exceed 0.089 mg/kg, even with an output of 30 tons per hour. As will be seen from the curves in Fig 7, the salt content of the distillate increases with the salt content of the concentrate. Data on silica carry-over is given in Tables 3 and 4; it will be seen that although the silica content of the concentrate is very high, it is present to the extent of only a few hundredths of a milligram per kilogram in the distillate. It is concluded that the use of two-stage steam washing in

Card 4/5

The Use of Two-Stage Steam-Washing in Evaporators SOV/96-59-5-11/19

evaporators can reduce the salt content of distillate to some hundredths of a milligram per kilogram. Still better results should be obtained with the other types of evaporator, which are used mainly in regional power stations. There are 7 figures, 4 tables and 6 Soviet references.

ASSOCIATION: MO TsKTI (The Moscow Division of the Central Boiler Turbine Institute)

Card 5/5

GOLUBEV, Ye.K., inzh.; SHIRYAYEV, A.A., inzh.

ISV-120 evaporator with two-stage steam scrubbing. Teploenergetika
11 no.4:31-34 Ap. '64. (MIRA 17:6)

1. Moskovskoye otdeleniye Tsentral'nogo kotloturbinного
instituta.

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GOLUBEV, Yevgeniy Petrovich; BELOV, M., red.; TREBUKHOV, N., tekhn.red.

[On the Vokhma River; a sketch] Nad Vokhmoi rekoi; ocherk.
Kostromskoe knizhnoe izd-vo, 1958. 53 p. (MIRA 12:2)
(Vokhma Valley--Description and travel)

GOLUBEV, Yu., inzh.

The "Selga" radio receiver. Radio no.10:30 0 '64.

(MIRA 18:2)

GOLUBEV, Yu.A.

Criteria for irresponsibility in Soviet legislation. Vop. psikh.
no.4:47-56 '60. (MIRA 15:2)

(FORENSIC PSYCHIATRY)

GOLUBEV, Yu.B.; ZYBALOVA, G.P., kand.tekhn.nauk; PETUKHOVA, N.N.; SHCHAD'KO, A.M.

Gas formation dynamics in the gasification of a lignite seam
at the experimental "Podzemgaz" gas generator station in the
Angren Basin. Trudy VNNIPodzemgaza no.13:11-17 '65.

(MIRA 18:8)

1. Laboratoriya tekhnologii podzemnoy gazifikatsii uglya Vsesoyuznogo
nauchno-issledovatel'skogo instituta podzemnoy gazifikatsii ugley.

SHUSHUNOV, V.A.; REDOSHKIN, B.A.; GOLUBEV, Yu.D.

Effect of certain factors on the rate of oxidation of cumene
by oxygen and on its hydroperoxide yield. Zhur.prikl.khim.
35 no.4:832-838 Ap '62. (MIRA 15:3)
(Cumene) (Oxidation)

MIROSHNIGHENKO, I.P., kand.tekhn.nauk; GOLUBEV, Yu.I.; ZHURAVLEVA, L.S.

Study of the architectural and structural form of the all-purpose
dry cargo ship for carrying wood, grain, and general cargoes. Trudy
TSNIIMF 7 no.36:3-28 '61. (MIRA 15:3)
(Freighters)

MIROSHNICHENKO, I.P., kand.tekhn.nauk; GOLUBEV, Yu.I., inzh.;
ZHURAVLEVA, L.S., inzh.; FEL'DMAN, I.A., inzh.

All-purpose ship for transporting wood, grain, general cargos,
and industrial equipment. Sudostroenie 27 no.10:24-32 O '61.
(MIRA 14:12)

(Freighters)

BOGDANOVA, Z.V., kand.tekhn.nauk; MIROSHENICHENKO, I.P., kand.tekhn.nauk;
SHEBALOV, A.N., kand.tekhn.nauk; GOLUBEV, Yu.I.; MALOVA, V.F.

Results of investigating the propulsive speed and seaworthiness
of ships with bulging outlines. Trudy TSNIMF no.45:27-37 '63.
(MIRA 16:9)

GOLUBEV, Yu.I.

Structural characteristics of lumber carriers. Trudy TSNIIMF
54:28-38 '64 (MIRA 18:1)

Golubev, Yu. M.

120-6-13/36

AUTHORS: Mel'nikov, G.P., Artemenkov, L.I., and Golubev, Yu.M.

TITLE: Multi-channel Amplitude Analyser with Recordings on a Potentialoscope (Mnogokanal'nyy amplitudnyy analizator s registratsiyey na potentsialoskope)

PERIODICAL: Priory i Tekhnika Eksperimenta, 1957, No.6, pp. 57 - 67 (USSR).

ABSTRACT: An electron-beam tube with accumulated charges has been used for the first time in a multi-channel analyser for amplitude-time transformation by I.V. Shtranikh (Ref.1). The results of analysis were thereby recorded by means of mechanical counters. A feature of the analyser, described in this paper, is the system of high-speed recording of the results of analysis, whereby the new method can be materialised not only in conjunction with an electron-beam tube, but also in conjunction with ferrite cores, for instance. This method was originally proposed by one of the authors at the end of 1952 (Refs. 2 and 9). In this paper, a multi-channel amplitude analyser is described, applying the here mentioned new method of recording the results of analysis on an electron-beam tube with charge accumulation. The first model, *ЭНА-1*, has 64 channels; the second model, *ЭНА-2*, which is at present in operation, differs little from the first one, but

Card 1/3

120-6-13/36

Multi-channel Amplitude Analyser with Recordings on a Potentialoscope.

provides a possibility for switching over the number of channels from 64 to 128 or 226 with capacities of 2^{16} , 2^{32} impulses per channel, respectively. The dead time of the recording section is 20 to 30 μ sec. In the analysing section, the principle of amplitude-time transformation is applied which has been described by D.H. Wilkinson (Ref.3), the dead time being 1.5 μ sec per channel. An image of the amplitude spectrum is obtained on the oscillograph section. The total number of tubes is 170. In the paper, the author pays attention mainly to describing this new method; the circuits reproduced in the paper refer to the first model, $\Delta A-1$. The basic block schematics of the analyser is given in Fig.1, p.58. In Fig.2, some measured results are reproduced and graphed. The actual block schematics of the analyser are shown in Fig.3. Fig.4 shows the circuit diagram of the input block; Fig.5 shows the circuit diagram of the transformation block. Fig.6 shows the circuit diagram of the control block. Fig.7 shows the circuit diagram of the deflection block, whilst in Fig.8, the spectra of the gamma-radiation recorded by means of the $\Delta A-1$ analyser for Hg^{208} , Cs^{137} and Co^{60} are graphed. This analyser was exhibited at the All-Union Industrial Exhibition at the

Card2/3

120-6-13/36

Multi-channel Amplitude Analyser with Recordings on a Potentialoscope.

beginning of 1956, where it was in operation daily for 8 hours. A number of possible simplifications and improvements are mentioned. The authors claim that the multi-channel analysers with ferrite memory elements, marketed in 1955 and 1956 in the USA and described by P.W. Byington and C.W. Johnston (Ref.6) and R.W. Schumann and J.P. McMahon (Ref.7), are much more cumbersome and more expensive than the here described analyser from the point of view of speed and channel capacity. The paper summarises the results of work relating to designing a multi-channel analyser carried out between 1953 and 1955. If the modifications mentioned in the paper are applied, it will be possible to build a table-model analyser of the oscillograph type with about 50 tubes, 100 to 300 channels with practically unlimited channel capacity, 1 - 2 μ sec average dead time and twin or linear recordings of the spectrum. Acknowledgments are made to P.A. Cheremnykh, A.A. Markov and G.N. Sofiyev for advice and assistance in developing the here described analyser. There are 8 figures and 9 references, 4 of which are Slavic.

SUBMITTED: April 8, 1957.

AVAILABLE: Library of Congress.
Card 3/3

L 09154-67 EWT(m)

ACC NR: AP7002769

SOURCE CODE: UR/0089/66/021/002/0141/0142

AUTHOR: Bazhenov, V. A.; Bochkarev, V. V.; Golubev, Yu. M.; Levin, I. V.;
Sokolova, T. N.; Turkin, A. D. 15

ORG: none

TITLE: Measurements of activity of radioactive gases by means of spherical
ionization chamber 19

SOURCE: Atomnaya energiya, v. 21, no. 2, 1966, 141-142

TOPIC TAGS: ionization chamber, radioactivity measurement

ABSTRACT: A spherical, 24-cm ionization chamber with a copper barrier, filled with air under atmospheric pressure and operating in the γ -spectrum energy range (0.15 to 2.20 Mev) was used for measuring the gas activity in experiments with ^{133}Xe , CO_2 (labeled with ^{14}C), ^{131}Xe , ^{85}Kr , and ^{41}Ar gases. The gas activity was determined by means of compensation counters. The order of error was about 2.5%. The results showed that only ^{14}C , ^{85}Kr , and ^{41}Ar with simple spectra could be used, while ^{133}Xe and ^{131}Xe , with their conversion electrons, could not be used. The average current magnitudes K per particle in the chamber were correlated with the theoretical values and the results agreed within 25 to 30%. Orig. art. has: 1 figure and 1 table. (NA)

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Card 1/1 nst

UDC: 543.52.539.107.42 002-1647

L 32039-66 EWT(w)/EWP(w)/T/EWP(t)/ETI LJP(c) JD/DI
ACC NR: AP6019203 (N) SOURCE CODE: UR/0121/66/000/006/0027/0028

AUTHOR: Golubev, Yu. M.; Minakhin, N. Ye.

ORG: none

TITLE: Increasing die wear resistance by ultrasonic strain hardening

SOURCE: Stanki i instrument, no. 6, 1966, 27-28

TOPIC TAGS: strain hardening, ultrasonic strain hardening, steel, steel hardening, tool steel, steel wear resistance, steel hardness/U10A steel

ABSTRACT: A new method of strengthening steel parts and tools by ultrasonic strain hardening has been tested under laboratory and production conditions. Ultrasonic vibrations with a frequency of 18—24 kc and an amplitude of 20 μ when applied to U10A steel under correct conditions increased the surface hardness and improved the surface finish. It created in the surface layer residual compression stresses of 16—18 kg/mm², which substantially increased the steel wear resistance. The steel microhardness increased from 75 to over 100 kg/mm². The effect of ultrasonic strain hardening depends to a great extent on the preceding steel heat treatment and steel initial hardness. The best results were obtained with a steel heat treated to a hardness of 53 Rc. The wear resistance of strain-hardened tools operating under conditions of impact load increased by about 150%. Orig. art. has: 4 figures. [ND]

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5019
Card 1/1 UDC: 621.9.048.6:621.961.2

GOLUBER, Yu. M.

47

PHASE I BOOK EXPLOITATION

SOV/6333

Bochkarev, V. V., ed.

Tekhnika izmereniye radioaktivnykh preparatov; sbornik statey (Techniques for the Measurement of Radioactive Preparations; Collection of Articles) Moscow, Gosatomizdat, 1962. 4600 copies printed.

Eds.: A. M. Smirnova and M. A. Smirnov; Tech. Ed.: S. M. Popova.

PURPOSE: This book is intended for specialists in nuclear instrumentation.

COVERAGE: The book is a collection of articles on recent developments in 1) measurement of the activity and 2) analysis of the composition of emissions of radioactive preparations. The methodology and apparatus used in these studies are described in detail. References are given at the end of each article.

TABLE OF CONTENTS:

Card 1/1 /

62

Techniques for the Measurement (Cont.)	SOV/6333
Turkin, A. D. Measurement of the Concentration of β -Emitting Gases and the Determination of Their Isotopic Composition by Means of Spherical Ionization Chambers	134
Lavrenchik, V. N. Measurement of the γ - and β -Activity of Aerosols	139
Ivanov, Yu. F., K. N. Shlyagin, and P. N. Feoktistov. Magnetic β - and γ -Spectrometer	156
Ivanov, Yu. F., I. A. Rumer, and K. N. Shlyagin. Magnetic Spectrometer BPP-3	168
Bazhenov, B. A., Yu. M. Golubev, K. N. Shlyagin, P. N. Feoktistov, and G. V. Yakovlev. Scintillation γ -Spectrometer With a Multichannel Analyzer and a Unit for the Automatic Plotting of Spectra	182
Bazhenov, V. A., Yu. M. Golubev, and K. N. Shlyagin. Scintillation Spectrometer Counter With Allowance for Dead-Time Effect	202
Card 4/5	

ACC NR: AP6036887

(A)

SOURCE CODE: UR/0122/66/000/011/0052/0053

AUTHOR: Kukhanov, I. I. (Candidate of technical sciences); Golubev, Yu. M. (Engineer)

ORG: none

TITLE: Hardening of steel parts using a sphere vibrating at ultrasonic frequency

SOURCE: Vestnik mashinostroyeniya, no. 11, 1966, 52-53

TOPIC TAGS: metal hardening, ultrasonic frequency, wear resistance

ABSTRACT: The article gives experimental data on the effect of ultrasonic hardening on the wear resistance of steel subjected to oxidizing and pitting wear, and the changes in the mechanical strength of the steel under a static load. The samples were in the form of rings made of Type 45 steel with a diameter of 45 mm and bronze bushings with a contact surface of 100 mm². The rate of rotation of the rings was 3.26 meters/sec, and the pressure between the working surfaces was 0.18 kg/mm². The samples were previously machined on a lathe. After the surface of the sample had been cut, it was subjected to the action of a sphere vibrating at ultrasonic frequencies (18-25 kilocycles). Before ultrasonic treatment, the height of the surface irregularities corresponded to the 5th class of purity. The roughness of the working surface of the rings after ultrasonic hardening was of the 9-10th class of purity, and of the bronze bushings of the 7th class. The data, shown in graphic form, shows that with an

Card 1/2

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increase in the static force above 5 kg, the depth of the hardening increases, but the surface microhardness decreases, leading to a decrease in wear resistance. Orig. art. has: 5 figures and 1 table.

SUB CODE: 11/ SUBM DATE: none

Card 2/2

GOLUBEV, Yu. N.

GOLUBEV, Yu. N.: "Investigation of the coefficient of useful effect of hypoid transmissions". Leningrad, 1955. Min Higher Education USSR. LENINGRAD Polytechnic Inst imeni M. I. Kalinin. (Dissertations for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya letopis', No. 52, 24 December, 1955. Moscow.

GOLUBEV, Yu.N.

Efficiency of hypoid gears. Trudy LPI no.193:212-216 '58.
(MIRA 12:2)
(Gearing)

KIRDYASHIN, Yu.N.; GOLUBEV, Yu.N.

Analysis of the methods of shifting stepped gearboxes. ~~Trudy~~
LII no.50:84-93 '64. (MIR 18:4)